



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,548	09/29/2006	Derk Vegter	H27215-1271.1103101	1579
128 7590 02/17/2009 HONEYWELL INTERNATIONAL INC. 101 COLUMBIA ROAD P O BOX 2245 MORRISTOWN, NJ 07962-2245				
EXAMINER				
AMRANY, ADI				
ART UNIT		PAPER NUMBER		
2836				
MAIL DATE		DELIVERY MODE		
02/17/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/599,548

**Applicant(s)**

VEGTER, DERK

**Examiner**

ADI AMRANY

**Art Unit**

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,8,9 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4,8,9 and 11-18 is/are allowed.
- 6) ☒ Claim(s) 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1 and 15 have been fully considered and are persuasive. The §103 rejections in view of Auer and LaForest have been withdrawn, as discussed below.

Applicant's arguments with respect to claim 19, however, are not persuasive. The limitations in claim 19 of a gas valve are drawn towards the end use of the method. It would have been obvious to one skilled in the art that a method for opening/closing a relay can be applied to any end-use system. What the valve controls (gas, mechanical movement, electricity, etc.) is not relevant to the method steps of controlling the valve. Although claim 19 recites "gas valve" several times throughout the body of the claim, one skilled in the art would recognize that this term can be substituted for any other type of valve without affecting the "method for controlling a relay."

This interpretation was provided in the rejection of claim 1 (Non-final Rejection, September 12, 2008). Applicant did not respond to or rebut this interpretation.

Further, applicant has supplied the Auer patent in an IDS dated September 29, 2006. The citation to this reference in the IDS is evidence of the reference's relevance to the pending claims. Claim 19 has not been amended to overcome Auer. The rejection of claims 19-21 is made final.

### ***Drawings***

2. Replacement figures 1-2 were received on December 19, 2008. These drawings are acceptable and will be entered.

***Claim Objections***

3. Claim 1 is objected to because the verb, "enable" (line 19) should be written as "enables." Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auer US 4,118,750).

With respect to claim 19, Auer discloses a method for controlling a relay (fig 1-3; abstract), comprising the steps of:

determining if a valve controller is currently providing a valid control signal (col. 3, lines 12-37);

providing a signal to the relay in accordance with the control signal if the determining step determines that the controller is currently providing a valid control signal (col. 5, line 47 to col. 6, line 49); and

closing the valve via the relay if the determining step determines that the controller is not currently providing a valid control signal (col. 6, line 50 to col. 7, line 19).

Auer discloses that the frequency signals are used to activate "a vital relay." One skilled in the art would recognize that a gas valve in a vital relay. Further, the limitation

that the recited method is for a gas valve is interpreted as the end use of the device. The Auer failsafe circuit will work the same way regardless of what medium the relay is designed to control. The method of claim 19 has not been amended as claim 1 to include specific component placements, as discussed below.

With respect to claim 20, Auer discloses determining if the input signal includes a first frequency signal for a first period of time followed by a second frequency signal for a second period of time (col. 3, lines 12-37, namely lines 21-23; col. 4, lines 39-50).

With respect to claim 21, Auer discloses charging a first capacitor (149A) during the first period of time when the input signal includes the first frequency signal (col. 3, lines 38-58; col. 4, lines 26-28); and charging a drive capacitor (149B) during the second period of time;

wherein a charged voltage across the drive capacitor provides a current to the relay to maintain the relay in its current state when the charging capacitor is charging (discussed below); and

wherein a charged voltage across the charging capacitor enables the drive circuit to charge the drive capacitor during the second period of time (discussed below).

Auer discloses that the first/second capacitors are charged during application of the first/second frequency signal, respectively. As is well known in the art, when a capacitor is not charged, it discharges. Thus, during the first frequency, when charging capacitor 149A is being charged, drive capacitor 149B is being discharged. Auer also

discloses that during times when the two frequencies alternate, the relay is maintained in its current state.

Further, as can be seen from figure 2, the charging capacitor (149A) and drive capacitor (149B) are in series. One skilled in the art would understand that when then charging capacitor (149A) is fully charged at the end of the first period of time, that when the second period of time begins, some charge will be passed to the drive capacitor (149B). During the first period of time, the voltage output by bridge (135) continuously charges the charging capacitor. One skilled in the art would recognize that as a capacitor is being charged, it can not discharge. Thus, once the second period of time begins, and the charging capacitor is no longer charging, it is free to discharge into the drive capacitor.

***Allowable Subject Matter***

6. Claims 1, 3-4, 8-9 and 11-18 are allowed.
7. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art does not teach or suggest a control circuit comprising, inter alia, a failsafe circuit including a charging capacitor and an input transistor, wherein upon the application of a first frequency signal at the input of the failsafe circuit, the charging capacitor charges, and upon the application of the second frequency signal, the charging capacitor is not charged, and the charging capacitor, when sufficiently charged, provides a bias to the input transistor that enable the input transistor; and wherein the drive circuit, upon application of the second frequency signal, supplies the relay with a voltage and/or current necessary for opening the gas

valve but only if the charging capacitor is sufficiently charged by the first frequency signal.

Claim 1 is patentable over the prior art because recites specific connections between the capacitor and transistor, that the first frequency signal charges the capacitor and the capacitor powers the relay via the transistor during the time of the second frequency signal. Claims 3-4, 8-9 and 11-14 are allowable since they depend from claim 1.

Regarding claim 15, the prior art does not teach the fail-safe circuit comprising, inter alia, a charging circuit having a charging capacitor and a drive circuit having at least one transistor and a drive capacitor; wherein during the period of the first frequency signal, the charging capacitor charges and the drive capacitor discharges to provide a relay current to the relay; and wherein during the period of the second frequency signal, the charging capacitor discharges into the base of the transistor, which causes the drive circuit to charge the drive capacitor and to provide a relay current to the relay.

Claim 15 is patentable over the prior art because it recites the connection of two capacitors via a transistor, such that the circuit is controlled during the first and second frequencies to pass current to the relay. Claims 16-18 are allowable since they depend from claim 15.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADI AMRANY whose telephone number is (571)272-0415. The examiner can normally be reached on Mon-Thurs, from 10am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA

/Fritz M Fleming/

Primary Examiner, Art Unit 2836